

MAY 12 '05 10:26AM PATENT DEPT

P.7/13

10/772,689

Best Available Copy

P-5060-D1

REMARKS

Reconsideration of the application and entry of the amendment are respectfully requested. Claims 1 to 13 and 17 to 23 are currently pending, and claims 6 and 18 have been amended.

The Office Action mailed July 1, 2004 addressed claims 1 to 13 and 17 to 23. Claims 1 to 13 and 17 to 23 were rejected.

The specification was objected to as failing to provide proper antecedent basis for the claimed subject matter. The Examiner stated that correction of the following was required: regarding claims 1 and 17, the materials listed for the core layer are listed in the specification as materials for the center core component only; regarding claims 3 and 20, the specification does not include the center core component of carboxylic acid salt; and regarding claim 5, the cover Shore D hardness from 35 to 90 is not supported by the specification.

Applicant respectfully disagrees with the Examiner and submits that the specification provides proper antecedent basis for the claimed subject matter. Regarding claims 1 and 17, Applicant respectfully submits that the materials listed for the core layer are listed in the specification for both the core layer and the center core. See, for example, page 15, line 42 to page 16, line 9, where the specification lists the materials and states that "the same rubber composition, except for the specific curing agent, can be used in both the central component and core layer(s). However, different compositions can readily be used in the different layers, including thermoplastic materials such as a thermoplastic elastomer or a thermoplastic rubber, or a thermoset rubber or a thermoset elastomer material." (See page 16, lines 4 to 9). Regarding claims 3 and 20, Applicant respectfully submits that the specification discloses the center core free of carboxylic acid salt. The specification repeatedly states that the center core is preferably free of zinc diacrylate (see, for example, page 17, lines 5 to 7). The specification additionally states that the center core preferably does not use metal carboxylate cross-linking agents (see page 21, lines 6 to 8). The specification defines the metal carboxylate cross-linking agent and lists examples, such as zinc diacrylate (see page 21, lines 8 to 25). Regarding claim 5, Applicant respectfully

MAY 12 '05 10:26AM PATENT DEPT

P.8/13

10/772,689

Best Available Copy

P-5060-D1

submits that the specification does provide support for the cover Shore D hardness from 35 to 90. Original claim 5 of the parent application, Serial No. 09/894,960, claimed a cover with a Shore D hardness from 35 to 90.

For at least these reasons, Applicant respectfully submits that the objection to the specification has been overcome. Applicant therefore respectfully requests that the Examiner reconsider and withdraw the objection.

Claims 6 and 18 were rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The Examiner stated that it is not clear if applicant is referring to the polybutadiene in the center core component or the core layer or both.

Applicant respectfully disagrees with the Examiner and submit that the claims are not indefinite, but in an effort to hasten prosecution, claims 6 and 18 have been amended to state that "sulfur cured polybutadiene" has a cis 1,4 content of greater than 90 percent.

For at least these reasons, Applicant respectfully submits that the rejection of claims 6 and 18 under 35 U.S.C. § 112, second paragraph has been overcome. Applicant therefore respectfully requests that the Examiner reconsider and withdraw the rejection.

Claims 1 to 9, 11, 13, 17 to 20, 22 and 23 were rejected under 35 U.S.C. § 103(a) as being anticipated by Shama (4,848,770) in view of Crompton (3,239,228). The Examiner stated that regarding claim 1, Shama discloses a golf ball comprising a center core, a mantle layer and a cover, the center core is made from a sulfur cured natural rubber or cis-1,4 polybutadiene, the mantle layer is disposed over the center core and comprises a cis-1,4 polybutadiene and peroxide, and a cover is formed over the mantle. The Examiner further stated that Shama does not explicitly disclose sulfur cured polybutadiene, but Crompton teaches a golf ball core comprising a sulfur cured polybutadiene. The Examiner further stated that regarding claim 2, the center core has a diameter from 0.70 to 1.25 inches; regarding claim 3, the center core does not include carboxylic acid salt; regarding claim 4, the mantle layer has a diameter from

MAY 12 '05 10:27AM PATENT DEPT

P.9/13

10/772,689

Best Available Copy

P-5060-D1

1.49 to 1.56 inches; regarding claim 5, the cover has a Shore D hardness from 38 to 64; regarding claim 6, the center core comprises a polybutadiene with at least 97% cis-1,4 structure; regarding claim 7, the center core has a specific gravity from 1.3 to 1.5; regarding claim 11, the center core includes an initiator (accelerator); and regarding claim 13, the peroxide is dicumyl peroxide. The Examiner further stated that regarding claim 17, Shama discloses a golf ball comprising a center core, a mantle layer and a cover, the center core is made from a sulfur cured natural rubber or cis-1,4 polybutadiene and has a Shore A hardness from 84 to 100, the mantle layer is disposed over the center core and comprises a cis-1,4 polybutadiene and peroxide and has a Shore D hardness from 30 to 64, and a cover is formed over the mantle; regarding claim 18, the center core comprises a polybutadiene with at least 97% cis-1,4 structure; regarding claim 19, Shama discloses any polybutadiene rubbers with at least 90% cis-1,4 structure may be used; regarding claim 20, the center core does not include carboxylic salt; regarding claim 22, the peroxide is dicumyl peroxide; and regarding claim 21, the center core includes an initiator. The Examiner concluded that one of ordinary skill in the art would have modified Shama in view of Crompton for enhanced resilience.

Applicant respectfully disagrees with the Examiner and submits that the Examiner has failed to make out a *prima facie* case of obviousness. Shama does not disclose a sulfur cured polybutadiene, as disclosed and claimed by Applicant in claims 1 and 17. Shama discloses only sulfur cured natural rubber, or synthetic rubber, such as polybutadiene, that is cured with a cross-linking agent and a polymerization initiator. Crompton discloses a one piece or two piece golf ball wherein the ball is formed from a composition comprising polybutadiene, sulfur and other ingredients. Crompton explicitly states that "the resilience is primarily obtained from the polybutadiene polymer", "polybutadiene is the important ingredient for resilience", and the best resilience is obtained from "a polybutadiene stereo controlled to the configuration of 35% cis, 58% trans and 7% 1-2" (see column 1, lines 41 to 65). Crompton makes no suggestion that resilience will improve with the use of a sulfur cross-linking agent, but instead states that the polybutadiene choice controls the resilience. Applicant

MAY 12 '05 10:27AM PATENT DEPT

P.10/13

10/772,689

Best Available Copy

P-5060-D1

respectfully submits that there is no motivation, teaching or suggestion to modify Shama, which discloses a golf ball with "excellent performance characteristics" (see column 1, lines 32 to 35), with Crompton, which discloses one piece or two piece golf balls that are improved by using a particular polybutadiene. There is no disclosure or teaching in Crompton to suggest that the specific polybutadiene cured with a sulfur vulcanizing agent would produce a golf ball with improved properties. One skilled in the art would not be motivated to modify Shama, which produces a three piece golf ball with superior properties, with the core or composition of Crompton, because Shama already lists polybutadiene as a preferred choice for the core material. Even if Shama did substitute the core composition of Crompton, the polybutadiene would not be a polybutadiene having a cis 1,4 content of greater than 90 percent. Applicant respectfully submits that the mere fact that Shama can be modified in the manner suggested by the Examiner does not make the modification obvious, and Applicant respectfully submits that there is no motivation or suggestion to modify Shama with Crompton in the manner suggested by the Examiner.

For at least these reasons, Applicant respectfully submits that claims 1 to 9, 11, 13, 17 to 20, 22 and 23 are not obvious under 35 U.S.C. 103(a) over Shama in view of Crompton. Applicant therefore respectfully requests that the rejection of 1 to 9, 11, 13, 17 to 20, 22 and 23 under 35 U.S.C. § 103(a) as obvious over Shama in view of Crompton be reconsidered and withdrawn.

Claims 8 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shama (4,848,770) in view of Aoyama (5,688,192). The Examiner stated that Shama discloses the invention as shown above but fails to include foamed or cellular material as a filler type, but Aoyama teaches cellular filler. The Examiner concluded that one skilled in the art would have included a cellular filler to achieve the desired weight of the golf ball, and regarding claim 8, Shama discloses that any well known filler may be added to achieve the desired specific gravity, therefore one skilled in the art would lower the specific gravity to make the ball lighter.

Applicant respectfully disagrees with the Examiner and submits that the Examiner has failed to make out a *prima facie* case of obviousness. As discussed

MAY 12 '05 10:28AM PATENT DEPT

P.11/13

10/772,689

**Best Available Copy**

P-5060-D1

above, Shama does not disclose a sulfur cured polybutadiene or Applicant's invention. Therefore, the addition of Aoyama for a cellular filler also does not disclose Applicant's invention. Additionally, claims 8 and 9 depend from claim 1, which Applicant respectfully submits is allowable, as discussed above. Therefore, Applicant also respectfully submits that claims 8 and 9 are also allowable.

For at least these reasons, Applicant respectfully submits that claims 8 and 9 are not obvious under 35 U.S.C. 103(a) over Shama in view of Aoyama. Applicant therefore respectfully requests that the rejection of 8 and 9 under 35 U.S.C. § 103(a) as obvious over Shama in view of Aoyama be reconsidered and withdrawn.

Claims 1 to 13 and 17 to 23 were rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1 to 15 of U.S. Patent No. 6,695,718. The Examiner stated that although the conflicting claims are not identical, they are not patentably distinct.

Although Applicant respectfully disagrees with the Examiner, in an effort to hasten prosecution, Applicant will submit a Terminal Disclaimer which disclaims the terminal portion of any patent granting from the instant application, as required under MPEP § 1490, once the remaining rejections have been overcome. Applicant respectfully submits that this will overcome the rejection.

The Examiner is invited to telephone Applicant's attorney if it is deemed that a telephone conversation will hasten prosecution of the application.

MAY 12 '05 10:28AM PATENT DEPT

P. 12/13

10/772,689

Best Available Copy

P-5060-D1

**CONCLUSION**

Applicant respectfully requests reconsideration and allowance of each of the presently rejected claims, claims 1 to 13 and 17 to 23. Applicant respectfully requests allowance of claims 1 to 13 and 17 to 23, the claims currently pending.

Respectfully submitted,

R. DENNIS NESBITT

Customer No. 24492  
Phone: (413) 322-2937

Date: August 19, 2004

By: Michelle Bugbee  
Michelle Bugbee, Reg. No. 42,370  
The Top-Flite Golf Company  
A wholly-owned subsidiary of Callaway Golf Company  
Attorney for Applicants  
425 Meadow Street  
P.O. Box 901  
Chicopee, MA 01021-0901